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Diabetes in reference of Graeco-Arab physicians: A review

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Abstract

Diabetes is derived from the Greek term “Diabanmo” means “fleeting through”. In Unani medicine generally, we use “Ziabetus” for diabetes. Unani Philosophers considered Ziabetus (Diabetes) as a kidney disease. Unani Medicine is an antiquated arrangement of pharmaceutical amalgam that uses a wide diverse routine for diagnosing and treating various restorative conditions. Diabetes is one of the topmost killer diseases of manhood. While it affects all the group of society, its impact is mainly on wealthy society. Today’s description of diabetes has almost stabilized, which mainly revolves around the role of pancreas, insulin, and its peripheral resistance along with other causes, to a minor extent; though, this description needs reconsideration. Various Traditional complementary and alternative medicine (TCAM) therapy claim attractive concepts and line of management are in vogue. In all TCAM (Traditional Complementary and Alternative Medicine) systems Unani system is one of the oldest among TCAM, which has an entirely holistic & different concept to understand all aspects of diabetes and offer a range of various regimens to counter this disease. Unani physicians and philosophers have a completely different vision of this disease. Jalinus (Galen/131-201 AD) was aware with both types of diabetes, and he labelled both forms in his two different literatures. This paper is an attempt to explore the causes, etiology and concept of diabetes in USM. Classical Unani literature like Al-Qanoon has been reviewed and all the related articles pertaining to the topic from Google and PubMed have been reviewed. In this paper, the authors is describing the concept of diabetes and usool-e-ilaj (principals of treatment) through the classical Unani literature.

Keywords: Ziabetus, diabetes mellitus, diabetes Insipidus, unani system of medicine, jalinus

1. Introduction

The first accurate description of diabetes mellitus, attributed to Aretaeus of Cappadocia, appeared in ancient historical sources 100 AD (Karamanou, *et al.*, 2016 Jan 10) ^[12], though many credits the Ebers papyrus as containing the earliest medical reference to the disease. The Ebers papyrus, dated to approximately 1530 BC, is one of the oldest Egyptian medical documents and, although it contains over 700 magical spells and medical remedies, it also contains phrasing that mentions a particular symptom indicative of diabetes mellitus. The Ebers papyrus also refers to ‘correcting urine of excess’, which may be a more likely reference to polyuria due to diabetes. In Ebers papyrus, dated back to 1500 BC, we may find passages describing patients who suffer from excessive thirst, copious urination and they are treated by plants extracts. However, according to the Egyptian endocrinologist, historian of medicine and translator of the Ebers papyrus Paul Ghalioungui (1908-1987) ^[16], the description of a probable diabetes, in Ebers, is regarded as unsatisfactory and probably wrong. In Kahun papyrus (c. 2000 BC) there is just the title of a recipe for the “Treatment of a thirsty woman”, but the text is missing (Ghalioungui, 1987) ^[16]. Diabetes mellitus is a group of metabolic diseases involving carbohydrate, lipid, and protein metabolism. It is characterized by persistent hyperglycaemia, as a result of defects in insulin secretion, insulin action or a combination of both, defective secretion and incorrect action. Coronary heart diseases and stroke are more common in diabetes than in general population (Park, 2015) ^[14]. Diabetes is neither a mild disease nor a curable disease. It has long been known that diabetes mellitus can aggregate in families. (Kumar, *et al.*, 1992) ^[3] There are two core types of diabetes mellitus: Type 1 (insulin-dependent), and type 2 (non-insulin-dependent). When diabetes occur by the results of autoimmune destruction of the β -cells of the pancreatic islets is called type 1 and while there is

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impairment in insulin secretion and resistance to the action of insulin is called type 2. (Kahn, *et al.*, 2005) ^[11]. The initial WHO *Global report on diabetes* reveals that the number of adults living with diabetes has almost quadrupled since 1980 to 2014. This histrionic rise is largely due to the increase in type 2 diabetes and factors driving it include overweight and obesity. In 2012 alone diabetes caused 1.5 million deaths. Its complications can lead to heart attack, stroke, blindness, kidney failure and lower limb amputation. (2019). The figure of people with diabetes has climbed from 108 million in 1980 to 422 million in 2014 (2019). According to the World Health Organization, diabetes will be the 7th leading cause of death in 2030. Diabetes can be treated and its consequences avoided or delayed with diet, physical activity, medication and regular screening and treatment for complications. The ancient Unani physicians such as *Ibn e Sina*, *Zakariya Razi*, *Azam Khan*, *Majoosi* and almost every scholar have given description of *Ziabetus shakari*. They have described constellation of symptoms such as excessive urination and thirst and presence of sugar in urine in relation of *Ziabetus shakari*.

2. Method

The classic and related books of Unani medicine were studied; the literature and claims in support of this article were taken from these books. Authors visited the library of Jamia Hamdard, India, for collecting valid literature. The databases applied for obtaining information are scientific research publications from journals indexed/available through Google Scholar, Scopus, PubMed, and Science Direct. Relevant facts were also obtained from general databases such as Google.

3. Concept of Diabetes in Unani System of Medicine

Ibn e Sina (980-1037) was first to describe differentiating features of diabetes associated with emaciation from other causes of polyurea and termed the disease “*aldulab*” (water wheel) and *zalaqul kulliya* (diarrhoea of kidneys). In this disease *mizaj* of kidney become *haar* so they absorb water from blood and send to urinary bladder immediately due to weakness in *Quwwate Masika* (Retentive power) (Medvei, 1993) ^[17]. *Ibne Sina* also described accurately the clinical features of the disease and mentioned two specific complications of the disease, namely gangrene and the collapse of sexual function. *Ibne sina* gave a good account of diabetes mellitus, describing the abnormal appetite and the collapse of sexual functions and he documented the sweet taste of diabetic urine. He also described two forms of primary and secondary diabetes, just as *Aretaeus* described about diabetes, and also diabetic gangrene. As to his treatment of diabetics, repetition of his prescriptions in modern times has shown that his mixture of lupine, trigonella (fenugreek), and zedoary seed, produces a considerable reduction in the excretion of sugar. (Nabipour, 2003) ^[4] (Medvei, 1993) ^[17]

The clinical features of *Ziabetus shakri* described in Unani literature mimics as the clinical features of diabetes mellitus described in modern medicine.

According to *Jalinoos* (131-201 AD, a roman physician mentioned that diabetes is rare disease as he had diagnosed only two cases during his clinical observation and he also state that *ziabetus* is basically a disease of *Gurdah* (kidney) or weakness of the kidney that's why he gave it a name “diarrhea of the urine” (diarrhea urinosa”) and “dipsakos” (the thirsty disease) (Zajac, *et al.*, 2009) ^[18] (Sanders, 2002) ^[7].

Buqrat (460 BC) “The father of medicine” did not specifically mention Diabetes in his literatures, there are accounts in the

Buqrat's texts that are consistent with the sign and symptoms of Diabetes, like excessive urinary flow with deteriorating of the body (Sanders, 2002) ^[7]

Aretaeus (81-138 AD) also known as *arastu* in Unani medicine provided the first accurate description of the symptoms of Diabetes. He was the first who use the term “Diabetes” in connection with this ailment, which means “to run through” or “Siphon”. He described the disease as “Diabetes is a dreadful affliction, not very frequently among men, being a melting down of the flesh and limbs into urine” (Henschen, 1969) ^[13] (ALI, *et al.*, 2006) ^[5]

Musa Bin Maimoon (1135 AD) claimed to have seen more than 20 cases. He proposed that Diabetes was caused by the sweet water of river Nile and the prevailing heat that spreads over the kidneys (Pickup, *et al.*, 1997) ^[15].

Al-Razi (Latin Rhazes 865-925 A.D.) referred to diabetes and disorders of sex organs in *Kitab al-Hawi* (Nabipour, 2003) ^[4].

4. Classification of Ziabetus According To Ancient Unani Literature

4.1 According to the presence or absence of sugar in the urine

4.1.1 Ziabetas is divided into two types

1) **Ziabetas Sada:** Which is also called *Ziabetas-ghair-shakari*. It is characterized by excessive thirst and excessive urination but there is no sugar in the urine.

2) **Ziabetas Shakari:** This is considered by excessive thirst and urination and presence of sugar in the urine. In this disease patient has excessive thirst and takes plenty of water and passes all the water he consumed without any metabolic changes. *Ziabetas Shakari* has been correlated with type 2 diabetes mellitus and described accurately the clinical features and specific complications of disease in classical Unani literature. (Fazil M) (Vijayakumar, 2009) ^[8] (Ozougwu, 2013) ^[2] (Qureshi, 2011) ^[10]

5. According to the khiffat and shiddat (intensity) of the sign and symptom

5.1 It is also divided into two types:

1) **Ziabetas Haar:** Acute symptoms of the Ziabetas with abrupt onset occur like excessive thirst (polydipsia) and increase urination (polyuria) with other symptom and sign of sue *mizaj haar* like heat in flanks and dryness of the body, due to sue *mizaj haar sada* of kidneys.

2) **Ziabetas Barid:** In which the thirst and frequency of urine is comparatively less. In this disease *mizaj* of kidneys disturbed so they absorb water from blood and send to the urinary bladder immediately due to weakness in *Quwate Masika* (retentive power). It has also been described that the kidneys attract the watery substance of blood, but the urinary bladder does not attract anything. Therefore, kidneys attract the water from the circulation, liver, stomach and intestine, because of which patient has the immoderate thirst (polydipsia). (Fazil M) (Vijayakumar, 2009) ^[8] (Ozougwu, 2013) ^[2] (Qureshi, 2011) ^[10]

6. Conclusion

In spite of tremendous advancement in medical science, we are still in the dark as we were few decades ago regarding preventive and curative aspects of diabetes. Lots of epidemiological work have been carried out and so many risk and related factors have come to our knowledge, but we are unable to get effective treatment. We will have to think about

and follow alternative therapies. The holistic Unani concept of medicine is a ray of hope for the suffering. In Ziabetes, the maximum damage is prone to vessels and vascular organs. So, the Unani insight of correcting organs may be effective managing strategy, Correction of Sue-Mizaj (in temperament) and ultimately faculties may be best preventive and curative steps to halt the progress of disease because in the Unani prospect, diabetes is nothing but a disturbance of vascular and organic digestion.

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